



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/568,613 | 02/16/2006 | Volker Diehl | 285909US0PCT | 9562 |
| 22850 | 7590 | 07/16/2008 | | |
| OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314 | | | | |
| EXAMINER KEENAN, JAMES W | | | | |
| ART UNIT | | PAPER NUMBER | | |
| 3652 | | | | |
| NOTIFICATION DATE | | DELIVERY MODE | | |
| 07/16/2008 | | ELECTRONIC | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com

oblonpat@oblon.com

jgardner@oblon.com

Office Action Summary

Application No.

10/568,613

Applicant(s)

DIEHL ET AL.

Examiner

James Keenan

Art Unit

3652

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 April 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 6-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 6-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 February 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB-08)
Paper No(s)/Mail Date 10/15/07.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) ☐ Notice of Informal Patent Application.
- 6) ☐ Other: _____.

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the filling aid having no elements which extend outwardly from the flexible body (claims 1 and 24) or having no elements other than the spacers which extend outwardly from the flexible body (claims 1 and 6) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2. Claim 1 is objected to because of the following informalities: the term "larger" is misspelled. Appropriate correction is required.
3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
4. Claims 3, 25, and 26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 3 recites a ratio of the diameter of the flexible body to that of the tube to be between .005 to .07. This is contradictory to that which is set forth in claim 1 and described in the specification. Claim 1 requires the tube to be 50 mm or less in diameter and a flexible body to tube cross-section ratio to be between .003 to .08. This would result in a flexible body diameter from approx. 2.75 mm to 14 mm (assuming the maximum 50 mm diameter tube) and between approx. 1.1 mm to 5.7 mm (assuming the minimum disclosed 20 mm tube diameter). This results in a diameter ratio of between approx. .05 and .3, reasonably consistent with that which is disclosed on page 2, lines 36-40 of the specification (flexible body diameter of between 2.5 to 5mm and diameter ratio from 0.1 to 0.3).

According to claim 3, however, a diameter ratio of between .005 to .07 results in a flexible body diameter of as little as 0.1 mm (20 mm tube) to at most 3.5 mm (50 mm

tube), a range which, while having some overlap, is substantially below that which is described in the specification and required in claim 1.

Claim 3 will therefore be examined as though the required ratio is between .05 and .3

Re claims 25 and 26, it is not clear what is meant by a "free-fall method of charging" or how the bulk density and pressure drop thereof can be compared with that of the method described in claims 1 and 21, since such properties would depend on factors not defined in the claims, e.g., the size and shape of the particles, initial velocity, tube length, etc..

5. Claims 1-4, 7-22, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hundtofte in view of James, both previously cited.

As noted in the previous Office action, Hundtofte shows the invention essentially as claimed, including an embodiment (col. 3, lines 48-51) in which a flexible elongated body with no radially projecting elements is used as a filling aid in a tube to be filled with catalyst particles. Hundtofte teaches the tube to have a diameter of between approx. 75-125 mm, rather than 50mm or less. However, Hundtofte teaches the flexible body to have an approx. 12mm diameter, resulting in a flexible body to tube cross-section ratio of .009 to .025, figures within the range of .003 to .08 set forth in claim 1. (Note: the previous Office action indicated Hundtofte's cross section ratio to be between .1 and .16; however, that figure is the diameter ratio).

James, as noted in the previous Office action, shows a similar catalyst loading method wherein the tubes can be as small as approx. 38mm. While the diameter of the flexible elongated filling aid is not explicitly disclosed, it is clearly substantially smaller than that of the tubes and would be scaled accordingly (see col. 3, lines 1-7).

It would have been obvious for one of ordinary skill in the art at the time of the invention to have modified the method of Hundtofte by loading the particles into tubes having an inner diameter of 50mm or less, as shown by James, as it has been held that where the general conditions of a claim are met, discovering an optimum size or range involves only routine skill in the art, especially since such a size is known in the art. It would have been an obvious design expediency to have scaled the diameter of the flexible body of the filling aid in accordance with the tube diameter so as to keep the cross-sectional ratio therebetween in the range of approx. .003 to .08; otherwise, it would interfere with the movement of the catalyst particles as they fell through the tube.

Re claim 3, Hundtofte teaches a diameter ratio between .1 and .16, within the range required, as noted in par. 4 above.

Re claim 21, note rigid terminating element 30 of James, which could in at least some instances have a density greater than that of the flexible body, especially since Hundtofte and James teach that the flexible body can be made from various materials including natural fibers and plastics.

6. Claims 6 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hundtofte in James, as applied to claims 1 and 21 above, and further in view of Bayer (EP 548,999), previously cited..

Although Hundtofte shows an embodiment where radially extending spacers 4 are utilized, they do not have a projection onto a plane perpendicular to the longitudinal direction of the filling aid no larger than a cross section of the flexible body.

As noted in the previous Office action, Bayer teaches such a feature in a similar catalyst loading environment. Although applicant asserts that the bristles of Bayer are inclined, as appears to be shown in the figures, it is noted that the figures are not necessarily accurate and/or do not necessarily show every disclosed embodiment. Bayer states that the damper means are "transverse" and that the type and shape thereof can be adapted to the type of particles and tube diameter used (col. 2, lines 19-44). Furthermore, the claims merely require the spacers to be perpendicular to the longitudinal **direction** of the filling aid. Thus, they do not have to be both vertically and horizontally perpendicular. So even if they are inclined at an angle and not horizontally perpendicular, each spacer is still vertically perpendicular to the longitudinal direction of the filling aid in at least one vertical plane. Therefore it is believed that Bayer adequately teaches such a feature.

It therefore would have been obvious for one of ordinary skill in the art at the time of the invention to have further modified the process of Hundtofte by utilizing perpendicular spacers which do not have a projection onto a plane perpendicular to the

Art Unit: 3652

longitudinal direction of the filling aid no larger than a cross section of the flexible body, as suggested by Bayer, to further improve the loading operation.

7. Although the prior art does not clearly render claims 25-26 unpatentable and therefore has not been applied, this does not necessarily indicate that these claims contain allowable subject matter. See par. 4 above.

8. Applicant's arguments with respect to claims 1-4 and 6-26 have been considered but are moot in view of the new ground(s) of rejection.

Any arguments pertinent to the new grounds of rejection have been addressed above.

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

Art Unit: 3652

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Keenan whose telephone number is 571-272-6925. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Saul Rodriguez can be reached on 571-272-7097. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/James Keenan/
Primary Examiner
Art Unit 3652

jwk
7/9/08